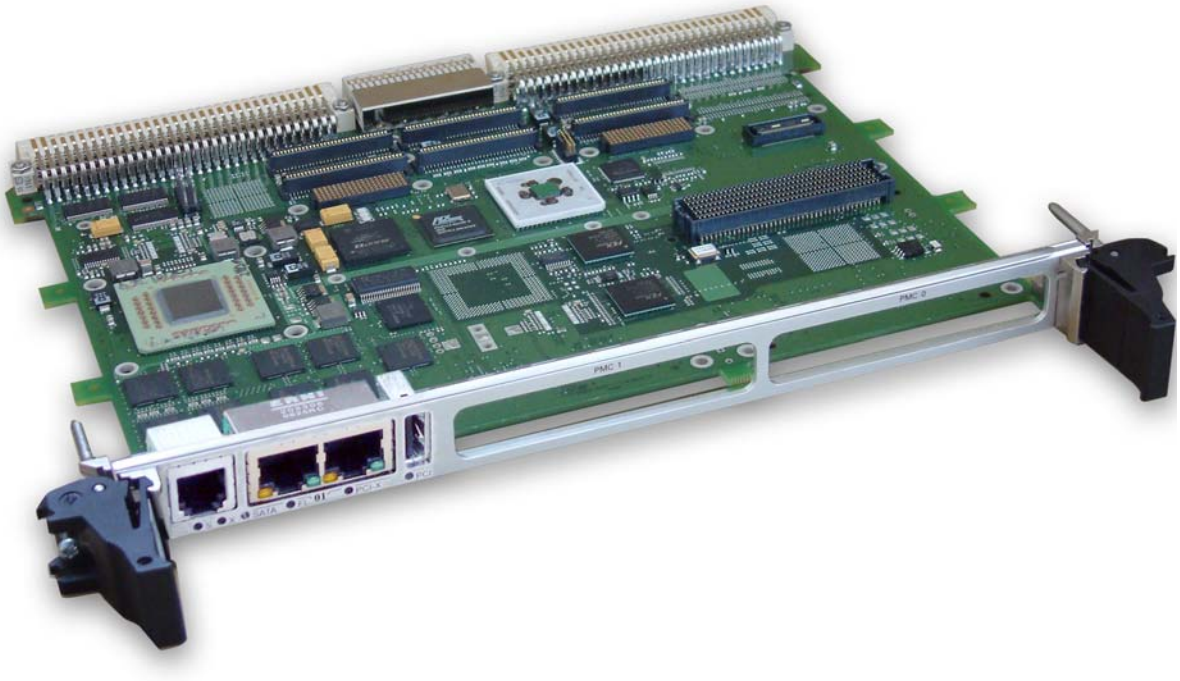
kontron

» ALMA2f «



FPGA Bridge Release Notes

CI.DT.A01-0e - March 2013

Revision History

Publication Title:	ALMA2f Release Notes	
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Rev.	Brief Description of Changes	Date of Issue
0e	Initial Issue	03-2013

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Environmental Protection Statement

This product has been manufactured to satisfy environmental protection requirements where possible. Many of the components used (structural parts, printed circuit boards, connectors, batteries, etc.) are capable of being recycled.

Final disposition of this product after its service life must be accomplished in accordance with applicable country, state, or local laws or regulations.

Environmental protection is a high priority with Kontron.

Kontron follows the DEEE/WEEE directive.

You are encouraged to return our products for proper disposal.

The Waste Electrical and Electronic Equipment (WEEE) Directive aims to:

- reduce waste arising from electrical and electronic equipment (EEE)
- make producers of EEE responsible for the environmental impact of their products, especially when they become waste
- encourage separate collection and subsequent treatment, reuse, recovery, recycling and sound environmental disposal of EEE
- improve the environmental performance of all those involved during the lifecycle of EEE

Conventions

This guide uses several types of notice: Note, Caution, ESD.

Note: this notice calls attention to important features or instructions.


Caution: this notice alert you to system damage, loss of data, or risk of personal injury.


ESD: This banner indicates an Electrostatic Sensitive Device.

All numbers are expressed in decimal, except addresses and memory or register data, which are expressed in hexadecimal. The prefix `0x' shows a hexadecimal number, following the `C' programming language convention.

The multipliers `k', `M' and `G' have their conventional scientific and engineering meanings of $*10^3$, $*10^6$ and $*10^9$ respectively. The only exception to this is in the description of the size of memory areas, when `K', `M' and `G' mean $*2^{10}$, $*2^{20}$ and $*2^{30}$ respectively.

When describing transfer rates, `k' `M' and `G' mean $*10^3$, $*10^6$ and $*10^9$ *not $*2^{10}$ $*2^{20}$ and $*2^{30}$.*

In PowerPC terminology, multiple bit fields are numbered from 0 to n, where 0 is the MSB and n is the LSB. PCI and CompactPCI terminology follows the more familiar convention that bit 0 is the LSB and n is the MSB.

Signal names ending with an asterisk (*) or a hash (#) denote active low signals; all other signals are active high.

Signal names follow the PICMG 2.0 R3.0 CompactPCI Specification and the PCI Local Bus 2.3 Specification.

For Your Safety

Your new Kontron product was developed and tested carefully to provide all features necessary to ensure its compliance with electrical safety requirements. It was also designed for a long fault-free life. However, the life expectancy of your product can be drastically reduced by improper treatment during unpacking and installation. Therefore, in the interest of your own safety and of the correct operation of your new Kontron product, you are requested to conform with the following guidelines.

High Voltage Safety Instructions


Warning!
All operations on this device must be carried out by sufficiently skilled personnel only.


Caution, Electric Shock!
Before installing a not hot-swappable Kontron product into a system always ensure that your mains power is switched off. This applies also to the installation of piggybacks. Serious electrical shock hazards can exist during all installation, repair and maintenance operations with this product. Therefore, always unplug the power cable and any other cables which provide external voltages before performing work.

Special Handling and Unpacking Instructions

ESD Sensitive Device!
Electronic boards and their components are sensitive to static electricity. Therefore, care must be taken during all handling operations and inspections of this product, in order to ensure product integrity at all times

Do not handle this product out of its protective enclosure while it is not used for operational purposes unless it is otherwise protected.

Whenever possible, unpack or pack this product only at EOS/ESD safe work stations. Where a safe work station is not guaranteed, it is important for the user to be electrically discharged before touching the product with his/her hands or tools. This is most easily done by touching a metal part of your system housing.

It is particularly important to observe standard anti-static precautions when changing piggybacks, ROM devices, jumper settings etc. If the product contains batteries for RTC or memory backup, ensure that the board is not placed on conductive surfaces, including anti-static plastics or sponges. They can cause short circuits and damage the batteries or conductive circuits on the board.

General Instructions on Usage

In order to maintain Kontron's product warranty, this product must not be altered or modified in any way. Changes or modifications to the device, which are not explicitly approved by Kontron and described in this manual or received from Kontron's Technical Support as a special handling instruction, will void your warranty.

This device should only be installed in or connected to systems that fulfill all necessary technical and specific environmental requirements. This applies also to the operational temperature range of the specific board version, which must not be exceeded. If batteries are present, their temperature restrictions must be taken into account.

In performing all necessary installation and application operations, please follow only the instructions supplied by the present manual.

Keep all the original packaging material for future storage or warranty shipments. If it is necessary to store or ship the board, please re-pack it as nearly as possible in the manner in which it was delivered.

Special care is necessary when handling or unpacking the product. Please consult the special handling and unpacking instruction on the previous page of this manual.

Table Of Contents

Chapter 1 - Contents of the Release Notes

This document describes the updates of the “ALMA2f User Manual” Documentation (CI.DT.A00-1e / Oct. 2009).

These updates apply only to ALMA2f versions defined in the table below:

Release Code	ALMA2f PCI rev ID	Applicable
9320	0X43	No
C118	0X44	No
D037	0X45	Yes

The updates are detailed in the following sections:

- Section 1.1 is the update of the section 2.0.3 - ALMA2f Utiliy Registers / UTIL_RST page 2.47 of the ALMA2f User Manual.
- Section 1.2 is the update of the section 2.0.4 - ALMA2f VME Registers / VME_TIM page 2-54 of the ALMA2f User Manual.
- Section 1.3 is the update of the section 5.1 - Initialization and Reset / Overview page 5-134 of the ALMA2f User Manual.

1.1 ALMA2f Utiliy Registers / UTIL_RST

UTIL_RST

VME Reset Control & Watchdog Timer Register

PCI Bus Number register

Address from PCI interface: Config space: not seen (access to PCI IP Core Register Space)

MEMORY space: PCIH_BA1_SPACE + 0x64

Address from VME interface: A16 space: VME_SLVA + 0x64

A24 space: CR_CSR_BAR + BEG_USER_CSR + 0x64

Width: 32

Reset Value: 0x00000000

Access type: Read/Write

UTIL_RST

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

Bit(s)	Description
0	UTIL_RST_LOC2VME Propagation of local reset (RESETINb) to the VME (SYSRESET*) 0 = no, 1 = yes if system controller
1	UTIL_RST_VME2LOCb 0 = yes, 1 = no
7 - 2	Reserved
9 - 8	UTIL_RST_ADD[1:0] Generation of local reset and/or a VME reset 00 De-activation of RESETOUb independently of the time-out 01 Activation of SYSRESET* for 201 ms 10 Activation of RESETOUb for 201 ms maximum. 11 Activation of SYSRESET* and RESOUTb
15 - 10	Reserved
31 - 16	UTIL_WDG_VALUE[15:0] Watchdog Timer value (ms) = UTIL_WDG_VALUE[15:0] multiplied by 4 - Writing a value different of zero in this register restart the Timer - Writing a zero inhibits the Watchdog function

1.2 ALMA2f VME Registers / VME_TIM

VME_TIM

VME Data Transfer Timer Register

Address from PCI interface: Config space: not seen (access to PCI IP Core Register Space)
MEMORY space: PCIH_BA1_SPACE + 0x72

Address from VME interface: A16 space: VME_SLVA + 0x72
A24 space: CR_CSR_BAR + BEG_USER_CSR + 0x72

Width: 8

Reset Value: 0xFF

Access type: Read/Write

7	6	5	4	3	2	1	0

Bit(s)	Description
0 -7	VME_TIM_DTBTOUT[7:0] Time-out from 0 to 256 us for Data transfers on the VMEbus 0000 0000: Timer is inactive Others: Timer initial setting in microseconds.

1.3 Initialization and Reset / Overview

Reset Source	V_SYSRESETo	RESETOUTb	Internal Reset
POWER_ON_RESETb	asserted	asserted	performed
V_SYSRESETib	no	asserted only if bit 1=0 (UTIL_RST_ VME2LOCb)	performed only if bit 1=0 (UTIL_RST_ VME2LOCb)
RESETINb	asserted if ALMA2f is VME System Controller and UTIL_RST [LOC2VME] = 1	asserted	performed
Addressed Reset	asserted if UTIL_RST [ADD[1:0]]= 01 or 11	asserted if UTIL_RST [ADD[1:0]]= 10 or 11	performed
Watchdog	no action	asserted	performed

The bit 8 of the UTIL_VMECNTL Register is a Read-only status bit UTIL_SYSRESET[ext] that indicates to what state is the signal **SYSRESET*** on the VMEbus.

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